

ABSTRACT OF THE DISCLOSURE

A low-distortion band-pass delta-sigma analog-to-digital converter (ADC), including an odd-phase sample and hold circuit coupled to a even-phase resonator, improves tolerance to mismatches between analog circuit components. The low-distortion ADC includes a feed-forward signal path that reduces, or eliminates, the input signal beyond the first summation point. In this way, the dynamic range and matching accuracy required of the resonator is reduced. An odd-phase sample and hold circuit shifts S/H spurious signals out-of-band. A two-phase resonator reduces in-band noise degradation caused by any mismatches between the resonator components.